

## **Bruce M. Kopf**

### **Automotive Consultant**

2002 – present Selectively seeking opportunities to constructively utilize automotive experience in program management and advanced technology implementation.

### **Ford Motor Company**

### **Dearborn, Michigan and Sao Paulo, Brazil**

1992 – 2002 Senior management member of Ford's electric vehicle product development team. Began as a member, and subsequently leader, of several Ford teams that conducted in-depth engineering/business feasibility studies of purpose built battery electric vehicle alternatives. All of these investigations progressed to the early prototype stage, and some were conducted jointly with other automotive manufacturers, however, none of them were judged to be able to become commercially viable. Led the teams that conceived the concept, secured corporate approval, and implemented the 1998 Ranger Battery Electric Vehicle (EV) program (1,400 units, plus 500 US Postal Vehicle derivatives), and the 2004 Focus Hydrogen Fuel Cell Hybrid Electric Vehicle (FCV) demonstration program (30 units). The Focus FCV was introduced at the 2002 New York Auto Show in essentially the production configuration. After Ford's 1997 investment in Ballard Power Systems (fuel cells and supporting systems), became an active participant and contributor in many joint Ford/DaimlerChrysler/Ballard technical and program reviews. Also, co-chaired fuel cell sessions at international Electric Vehicle Symposium conferences, prepared and presented reports describing the status and potential of hydrogen fuel cell vehicles to members of the US Congress and their staffs, participated on discussion panels addressing electric vehicle technology, and was a member of a joint automotive/energy company hydrogen study group. Retired in 2002 as Director, TH!NK Technologies, which was then globally responsible for Battery, Hybrid (battery and regenerative brakes) and Fuel Cell electric-vehicle-specific systems engineering, as well as program management, vehicle assembly, and customer service of all Ford advanced electric vehicle fleets – Ranger EV, US Postal Service EV, and Focus FCV.

1989 – 1992 Served as Assistant Director, Product Development for Autolatina, which was a joint venture between Ford and Volkswagen in Brazil and Argentina from 1987 until 1995. Led product planning and program management for all Ford and Volkswagen car programs and car powertrain programs. Major projects included implementation of the 1990 European Escort, with unique to South America Volkswagen derivatives, multiple body styles and nearly 100% local sourcing, a new Volkswagen Santana/Quantum with unique Ford Versailles/Royale derivatives, a stretched Volkswagen Santana for China, and a new Volkswagen Gol. Conducted a major radio sourcing study – implemented on all Ford and Volkswagen cars, implemented fuel injection on all Ford and Volkswagen gasoline and ethanol cars, and developed rapid Ford and Volkswagen product responses to the Brazilian government's unanticipated implementation of a sub 1L tax reduction giving Fiat a sudden and significant competitive advantage.

1970 – 1989 Numerous management responsibilities in product planning, business planning, program control, and program management within Ford's North American Car Product Development. Major accomplishments included planning, securing corporate approval, developing the cross-functional team concept, and leading, from start to finish, implementation of the all new 1989 Thunderbird/Cougar (MN12 platform), which received Motor Trend's "Car of the Year" award. Served in similar roles for the 1986 Taurus/Sable 2.5L I4 and 3.0L V6

engines, 1984 Escort 2.0L Diesel engine, 1983 LTD/Marquis, 1982 Propane fueled Granada, and 1981 Granada/Cougar. Secured approval of the high performance 5.0L V8 for the 1982 Mustang, and subsequent annual performance upgrades. Instrumental in planning, developing the interior package, and securing approval of the all new 1979 Crown Victoria/ Grand Marquis (Panther platform), which has become Ford's longest running car platform in history, and planning the powertrain and chassis for the all new 1976 European Fiesta (Bobcat platform), which represented Ford's successful return to front wheel drive technology. Was a member of Hal Sperlich's team at Ford that invented the front wheel drive, low/flat load floor, high cube, garageable, MiniMax Concept Vehicle – the precursor of the highly successful modern MiniVan.

### **Firestone Tire and Rubber Company**

### **Akron, Ohio and London, England**

1964/5 and 1967/8 Tire development engineer – helped to design and develop NASCAR and Formula 1 racing tires. Also, recommended tire pressure and race car chassis settings to teams and drivers during practice and projected tire wear (laps remaining) during races.

### **Military Service**

1965 – 1967 Commissioned 2<sup>nd</sup> Lieutenant in US Army Corps of Engineers. Completed US Army Engineer Officer Basic and Airborne training. Served as platoon leader and battalion S-1/adjutant (1<sup>st</sup> Lieutenant) in the 10<sup>th</sup> Engineer Battalion, 3<sup>rd</sup> Infantry Division, West Germany.

### **Education**

MBA, 1970, Graduate School of Business, University of Chicago

MS Economics, 1970, London School of Economics and Political Science, University of London

BS Mechanical Engineering, 1964, Rose-Hulman Institute of Technology

### **Other**

Licensed Professional Engineer, State of Michigan

Jointly awarded US Patent No. 6,744,237 – “Hybrid Power System for an Electric Vehicle”

Member of Harbor Committee, Grosse Pointe Shores, Michigan

Trustee and past officer of Improvement Foundation, Grosse Pointe Shores, Michigan

Past member of Board of Advisors, Rose-Hulman Institute of Technology

Married, two children

### **References**

Can be furnished upon request.

02 Apr 2006